General

Guideline Title

Occupational therapy practice guidelines for older adults with low vision.

Bibliographic Source(s)

Kaldenberg J, Smallfield S. Occupational therapy practice guidelines for older adults with low vision. Bethesda (MD): American Occupational Therapy Association, Inc. (AOTA); 2013. 119 p. [211 references]

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

Note from the National Guideline Clearinghouse: In addition to the evidence-based recommendations below, the guideline includes extensive information on the referral and evaluation process, including creation of the occupational profile and the development of an intervention plan.

Definitions for the strength of recommendations (A–D, I) and levels of evidence (I–V) are provided at the end of the "Major Recommendations" field.

Recommendations for Occupational Therapy Interventions for Older Adults with Low Vision

Recommended	No Recommendation	Not Recommended
• Use of problem-solving strategies to increase participation in activities of daily living (ADLs) and instrumental activities of daily living (IADLs) tasks and leisure and social participation (A) • Multicomponent patient education and training to improve occupational performance (A) • Increased illumination to improve reading performance (B) • Increased illumination to improve social participation (B) • Stand-based magnification systems to increase reading speed and duration (B) • Patient education programs to improve self-regulation in driving and community mobility (B) • Use of bioptics to improve simulated and on-road driving skills as well as outdoor	• Colored overlays do not improve reading performance (B) • Preferential use of either binocular or monocular viewing for reading performance (I) • Use of a specific light source (I)	

Recommended	No Recommendation	Not Recommended
mobility skill (B) • Contrast and typeface (sans serif), type size (14–16 points), and even spacing to improve legibility and readability of print (B) • Use of contrast, for example, yellow marking tape, colored filters, using a white plate on a black placemat, to improve participation in occupations (C) • Use of low-vision devices (e.g., high-add spectacles, nonilluminated and illuminated hand-held magnifiers, nonilluminated and illuminated stand magnifiers, high plus lenses, telescopes, electronic magnifiers [such as closed-circuit TVs]) to improve reading speed and reduce level of disability when performing ADL tasks (C) • Eccentric viewing training to improve reading performance (C) • Eccentric viewing in combination with instruction in magnification to improve reading (C) • Eccentric viewing completed with specific software programs for near vision and ADLs (C) • Use of optical magnifiers versus head-mounted magnification systems to improve reading speed (C) • Use of sensory substitution strategies (e.g., talking books) to maintain engagement in desired occupations (C) • Use of contrast to improve reading performance: colored overlays (I) • Use of spectacle reading glasses to improve reading performance (I) • Use of organizational strategies to compensate for vision loss (I)		

*Note: Criteria for levels of evidence are based on the standard language from the Agency for Healthcare Research and Quality (2009). Suggested recommendations are based on the available evidence and content experts' clinical expertise regarding the value of using the intervention in practice.

Definitions:

Strength of Recommendations

A–There is strong evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. Good evidence was found that the intervention improves important outcomes and concludes that benefits substantially outweigh harm.

B–There is moderate evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. At least fair evidence was found that the intervention improves important outcomes and concludes that benefits outweigh harm.

C–There is weak evidence that the intervention can improve outcomes, and the balance of the benefits and harms may result either in a recommendation that occupational therapy practitioners routinely provide the intervention to eligible clients or in no recommendation as the balance of the benefits and harm is too close to justify a general recommendation.

D–Recommend that occupational therapy practitioners do not provide the intervention to eligible clients. At least fair evidence was found that the intervention is ineffective or that harm outweighs benefits.

I–Insufficient evidence to determine whether or not occupational therapy practitioners should be routinely providing the intervention. Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits and harm cannot be determined.

Levels of Evidence for Occupational Therapy Outcomes Research

Evidence Level	Definitions
I	Systematic reviews, meta-analyses, randomized controlled trials
II	Two groups, nonrandomized studies (e.g., cohort, case control)
III	One group, nonrandomized (e.g., before and after, pretest and posttest)
IV	Descriptive studies that include analysis of outcomes (e.g., single-subject design, case series)
V	Case reports and expert opinion that include narrative literature reviews and consensus statements

Note: Adapted from "Evidence-based medicine: What it is and what it isn't." D. L. Sackett, W. M. Rosenberg, J. A. Muir Gray, R. B. Haynes, & W. S. Richardson, 1996, *British Medical Journal*, 312, pp. 71-72.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Low vision (visual impairment) caused by age-related diseases including:

- Central visual field impairment (e.g., age-related macular degeneration and cataracts)
- Peripheral field impairment (e.g., glaucoma, hemianopsia, and quadrantanopsia)
- Mixed visual field loss (e.g., diabetic retinopathy)

Guideline Category

Counseling

Evaluation

Management

Prevention

Rehabilitation

Risk Assessment

Screening

Treatment

Clinical Specialty

Family Practice

Geriatrics

Ophthalmology

Optometry

Physical Medicine and Rehabilitation

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Health Care Providers

Health Plans

Nurses

Occupational Therapists

Optometrists

Patients

Physical Therapists

Physician Assistants

Physicians

Public Health Departments

Social Workers

Students

Utilization Management

Guideline Objective(s)

- To provide an overview of the occupational therapy process for older adults with low vision
- To define the occupational therapy domain and process and interventions that occur within the boundaries of acceptable practice
- To help occupational therapists and occupational therapy assistants, as well as those people who manage, reimburse, or set policy regarding occupational therapy services, understand the contribution of occupational therapy in treating older adults with low vision
- To serve as a reference for health care professionals, health care facility managers, education and health care regulators, third-party payers, and managed care organizations

Target Population

Older adults, primarily ages 65 years or older, with low vision due to age-related eye diseases

Interventions and Practices Considered

1. Use of problem-solving strategies
2. Multicomponent patient education and training
3. Increased illumination
4. Stand-based magnification systems
5. Patient education programs
6. Use of bioptics
7. Use of contrast/typeface
8. Use of low-vision devices
    - High-add spectacles
    - Nonilluminated and illuminated hand-held magnifiers
    - Nonilluminated and illuminated stand magnifiers
    - High plus lenses
    - Telescopes
    - Electronic magnifiers
9. Eccentric viewing training
10. Optical magnifiers
11. Sensory substitution strategies
12. Spectacle reading glasses
13. Organizational strategies

Major Outcomes Considered

- Negative effects of vision loss on activities of daily living (ADLs) and instrumental ADLs (IADLs), reading, driving and community mobility,

and leisure and social participation
- Effectiveness of occupational therapy interventions to address negative effects of vision loss

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Four focused questions were developed for the systematic reviews of occupational therapy interventions for older adults with low vision. The questions were generated in conjunction with an advisory group of content experts in low vision within and outside of occupational therapy. The following focused questions from the review are included in this Practice Guideline:

1. What is the evidence for the effectiveness of environmental interventions within the scope of occupational therapy practice to maintain, restore, and improve performance in activities of daily living (ADLs) and instrumental activities of daily living (IADLs) within the home for older adults with low vision?
2. What is the evidence for the effectiveness of providing interventions within the scope of occupational therapy practice to improve the ability to use optical, nonoptical, and electronic magnifying devices to complete the reading required for performance of occupations by older adults with low vision?
3. What is the evidence for the effectiveness of interventions within the scope of occupational therapy practice to improve the driving performance and community mobility of older adults with low vision?
4. What is the evidence for the effectiveness of interventions within the scope of occupational therapy practice to maintain, restore, and improve performance in leisure and social participation for older adults with low vision?

Search terms for the reviews were developed by the consultant to the American Occupational Therapy Association, Inc. (AOTA) Evidence-Based Practice (EBP) Project and AOTA staff in consultation with the authors of each question and reviewed by the advisory group. The search terms were developed not only to capture pertinent articles but also to make sure that the terms relevant to the specific thesaurus of each database were included. Table C.2. in the original guideline document lists the search terms related to populations and interventions included in each systematic review. A medical research librarian with experience in completing systematic review searches conducted all searches and confirmed and improved the search strategies.

Inclusion and exclusion criteria are critical to the systematic review process because they provide the structure for the quality, type, and years of publication of the literature incorporated into a review. The review for all four questions was limited to peer-reviewed scientific literature published in English. It also included consolidated information sources such as the Cochrane Collaboration.

The literature included in the review was published from 1990 to 2010, and the study populations were older adults, primarily ages 65 years or older, with low vision. Studies included in the review were of intervention approaches within occupational therapy's domain and scope of practice. The review excluded data from presentations, conference proceedings, non–peer-reviewed research literature, dissertations, and theses. Only Level I, II, III evidence (see the "Rating Scheme for the Strength of the Evidence" field) was included in the reviews.

The consultant to the EBP project completed the first step of eliminating references on the basis of citation and abstract. The reviews were carried out as academic partnerships in which academic faculty worked with occupational therapy graduate students to carry out the reviews. Review teams completed the next step of eliminating references on the basis of further review of citations and abstracts. The full-text versions of potential articles were retrieved, and the review teams determined final inclusion in the review on the basis of predetermined inclusion and exclusion criteria.

Number of Source Documents

A total of 70 articles were included in the final review.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Levels of Evidence for Occupational Therapy Outcomes Research

Evidence Level	Definitions
I	Systematic reviews, meta-analyses, randomized controlled trials
II	Two groups, nonrandomized studies (e.g., cohort, case control)
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IV	Descriptive studies that include analysis of outcomes (e.g., single-subject design, case series)
V	Case reports and expert opinion that include narrative literature reviews and consensus statements

Note: Adapted from "Evidence-based medicine: What it is and what it isn't." D. L. Sackett, W. M. Rosenberg, J. A. Muir Gray, R. B. Haynes, & W. S. Richardson, 1996, *British Medical Journal*, 312, pp. 71-72. Copyright © 1996 by the British Medical Association. Adapted with permission.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The teams working on each focused question reviewed the articles according to their quality (scientific rigor and lack of bias) and level of evidence. Each article included in the review then was abstracted using an evidence table that provides a summary of the methods and findings of the article and an appraisal of the strengths and weaknesses of the study on the basis of design and methodology.

The strength of the evidence is based on the guidelines of the U.S. Preventive Services Task Force (http://www.uspreventiveservicestaskforce.org/uspstf/grades.htm). The designation of *strong evidence* includes consistent results from well-conducted studies, usually at least two randomized controlled trials (RCTs). A designation of *moderate evidence* may be made on the basis of one RCT or two or more studies with lower levels of evidence. In addition, some inconsistency of findings across individual studies might preclude a classification of strong evidence. The designation of *limited evidence* may be based on few studies, flaws in the available studies, and some inconsistency in the findings across individual studies. A designation of *mixed* may indicate that the findings were inconsistent across studies in a given category. A designation of *insufficient evidence* may indicate that the number and quality of studies is too limited to make any clear classification.

Review authors also completed a Critically Appraised Topic (CAT), a summary and appraisal of the key findings, clinical bottom line, and implications for occupational therapy based on the articles included in the review for each question. American Occupational Therapy Association, Inc. (AOTA) staff and the Evidence-Based Practice (EBP) project consultant reviewed the evidence tables and CATs to ensure quality control.

Strengths and Limitations of the Systematic Reviews

The systematic reviews presented in this Practice Guideline cover many aspects of occupational therapy practice for older adults with low vision and have several strengths. Four focused questions were included in the reviews, covering information related to several aspects of the domain of occupational therapy addressed in the Occupational Therapy Practice Framework (2nd ed.; AOTA, 2008). The reviews included 70 articles, and three-fourths of the articles were Level I and II evidence. The reviews involved systematic methodologies and incorporated quality control measures. Limitations of the studies incorporated in the reviews may include small sample size and lack of long-term follow-up. Depending on the level of evidence, the studies may lack randomization and a control group. In addition, separating out the effects of a single intervention that is part of a multimodal intervention is difficult. Also, many of the studies used outcome measures not specifically geared to the systematic review question, which may have obscured the ability to separate out the effect of the interventions studied on the targeted outcome.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

In 2009, both the American Occupational Therapy Association, Inc. (AOTA) National Office and members expressed interest in developing an Evidence-Based Practice (EBP) guideline on occupational therapy for older adults with low vision because of the increased incidence of older adults with low vision and AOTA's interest in focusing on areas related to board and specialty certification. It was felt that the EBP guideline would provide occupational therapy practitioners with findings that would guide and support practice in this area. In addition, a practice guideline would be used to support the role of occupational therapy with external audiences. Four focused questions were developed for the systematic reviews of occupational therapy interventions for older adults with low vision. The questions were generated in conjunction with an advisory group of content experts in low vision within and outside of occupational therapy.

Rating Scheme for the Strength of the Recommendations

Strength of Recommendations

A–There is strong evidence that occupational therapy practitioners should routinely provide the intervention to eligible clients. Good evidence was found that the intervention improves important outcomes and concludes that benefits substantially outweigh harm.

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D–Recommend that occupational therapy practitioners do not provide the intervention to eligible clients. At least fair evidence was found that the intervention is ineffective or that harm outweighs benefits.

I–Insufficient evidence to determine whether or not occupational therapy practitioners should be routinely providing the intervention. Evidence that the intervention is effective is lacking, of poor quality, or conflicting and the balance of benefits and harm cannot be determined.

Cost Analysis

The guideline developers reviewed published cost analyses.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

Not stated

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

A total of 70 articles were included in the final review. The table below presents the number and level of evidence for articles included in each review question.

Number of Articles in Each Review at Each Level of Evidence						
	Evidence Level					
Review	**I**	**II**	**III**	**IV**	**V**	**Total**
Participation in activities of daily living and instrumental activities of daily living	9	5	3	0	0	17
Reading with magnifying and other devices	16	8	8	0	0	32
Driving and community mobility	4	2	2	0	0	8
Leisure and social participation	9	1	3	0	0	13
Total	38	16	16	0	0	70

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

These guidelines may be used to assist:

- Occupational therapists and occupational therapy assistants in communicating about their services to external audiences
- Eye care professionals, other health care practitioners, case managers, families and caregivers, and health care facility managers in determining whether referral for occupational therapy services would be appropriate
- Third-party payers in determining the medical necessity for occupational therapy
- Legislators, third-party payers, and administrators in understanding the professional education, training, and skills of occupational therapists and occupational therapy assistants
- Health and education planning teams in determining the need for occupational therapy
- Program developers, administrators, legislators, and third-party payers in understanding the scope of occupational therapy services
- Program evaluators and policy analysts in this practice area in determining outcome measures for analyzing the effectiveness of occupational therapy intervention
- Policy, education, and health care benefit analysts in understanding the appropriateness of occupational therapy services for older adults with low vision
- Policymakers, legislators, and organizations in understanding the contribution occupational therapy can make in program development and health care reform for older adults with low vision
- Occupational therapy educators in designing appropriate curricula that incorporate the role of occupational therapy with older adults with low vision

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

- This guideline does not discuss all possible methods of care, and although it does recommend some specific methods in practice, the occupational therapist makes the ultimate judgment regarding the appropriateness of a given procedure in light of a specific client's circumstances and needs.
- This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold or distributed with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional service. If legal advice or other

expert assistance is required, the services of a competent professional person should be sought.
- It is the objective of the American Occupational Therapy Association, Inc. (AOTA) to be a forum for free expression and interchange of ideas. The opinions expressed by the contributors to this work are their own and not necessarily those of the AOTA.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Patient Resources

Resources

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Kaldenberg J, Smallfield S. Occupational therapy practice guidelines for older adults with low vision. Bethesda (MD): American Occupational Therapy Association, Inc. (AOTA); 2013. 119 p. [211 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013

Guideline Developer(s)

American Occupational Therapy Association, Inc. - Professional Association

Source(s) of Funding

American Occupational Therapy Association, Inc.

Guideline Committee

Not stated

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Financial Disclosures/Conflicts of Interest

The authors of this Practice Guideline have signed a Conflict of Interest statement indicating that they have no conflicts that would bear on this work.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Electronic copies: Not available at this time.

Print copies: Available for purchase from The American Occupational Therapy Association (AOTA), Inc., 4720 Montgomery Lane, Bethesda, MD 20814, Phone: 1-877-404-AOTA (2682), TDD: 800-377-8555, Fax: 301-652-7711. This guideline can also be ordered online at the AOTA Web site.

Availability of Companion Documents

The following are available:

- Occupational therapy practice framework: domain and process. 2nd ed. 2008. Available to order from the American Occupational Therapy Association (AOTA) Web site .
- Occupational therapy services for persons with visual impairment. Fact sheet. Bethesda (MD): American Occupational Therapy Association, Inc. (AOTA); 2011. 2 p. Electronic copies: Available in Portable Document Format (PDF) from the AOTA Web site .

In addition, case studies are available in the original guideline document.

Patient Resources

The following is available:

- Tips for low vision. Electronic copies: Available from the American Occupational Therapy Association, Inc. (AOTA) Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

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